AMENDMENTS TO THE CLAIMS

This Listing of Claims will replace all prior versions, and listings, of claims in the subject Patent Application:

Listing of Claims:

1. (Currently amended) A device adapted to be used in a communication system, the communication system using one of OFDM, NBFDM, DMT, FDMA and TDMA, comprising:

a plurality of ~~first~~ remote transceiver units operable to communicate in continuous bi-directional manner for the direct exchange of information with a ~~second~~ central transceiver unit disposed remotely therefrom using a common frequency;

means for detecting responsive to a continuous comparison of received and detected signals in each of said ~~first~~ remote transceiver units a comparative offset between respective common frequency references used locally by said ~~first~~ remote transceiver unit and the ~~second~~ central transceiver unit in at least one first signal transmitted by said ~~first~~ remote transceiver unit and received by the ~~second~~ central transceiver unit, wherein the common frequency is a carrier frequency in ~~at least one of the~~ a first remote transceiver unit~~s~~ and a sampling frequency in ~~at least one other of the first~~ a second remote transceiver unit~~s~~;

means for adjusting the common frequency in ~~each of~~ said first and second remote transceiver units in accordance with the offsets detected responsive

to the continuous comparison of received and detected signals in at least one second signal to be transmitted by the ~~second~~ central transceiver unit and to be received by said first or second remote transceiver unit to correct for an error in the common frequency reference used locally thereat, so that the effects of the offset to be perceived by said first or second remote transceiver unit will be substantially reduced in preemptive manner, the second signal to be transmitted being thereby adjusted to be in substantial frequency lock with the common frequency reference of said first or second remote transceiver unit.

2-3. (Canceled).

4. (Currently amended) A device according to claim 1, wherein the means for detecting the offsets in ~~at least one of~~ the first remote transceiver unit~~s~~ includes means for performing a correlation on a digital representation of the first signal so as to lock onto the offset in the carrier frequency.

5. (Currently amended) A device according to claim 1, wherein the means for adjusting the common frequencies in ~~at least one of~~ the first remote transceiver unit~~s~~ includes means for digitally shifting data in frequency to be transmitted in accordance with the carrier frequency and the offset corresponding thereto.

6-7. (Canceled).

8. (Currently amended) A device according to claim 1, wherein the means for detecting the offsets in ~~at least one of~~ the first remote transceiver unit~~s~~ includes means for locking onto the offset in the carrier frequency and for producing an output signal corresponding thereto.

9. (Currently amended) A device according to claim 8, wherein the means for adjusting the common frequencies in ~~at least one of~~ the first remote transceiver unit~~s~~ includes means for variably adjusting a reference frequency output by a crystal oscillator in accordance with the output signal generated by the locking means.

10-14. (Canceled).

15. (Currently amended) A method adapted to be used in a communication system, the communication system using one of OFDM, NBFDM, DMT, FDMA and TDMA, wherein the communication system comprises a plurality of ~~first~~ remote transceiver units operable to communicate in continuous bi-directional manner for the direct exchange of information with a ~~second~~ central transceiver

unit disposed remotely therefrom using a common frequency, the method comprising:

detecting responsive to a continuous comparison of received and detected signals in each of said ~~first~~ remote transceiver units a comparative offset between respective common frequency references used locally by said ~~first~~ remote transceiver unit and the ~~second~~ central transceiver unit in at least a first signal transmitted by said ~~first~~ remote transceiver unit and received by the ~~second~~ central transceiver unit, wherein the common frequency is a carrier frequency in ~~at least one of the~~ a first remote transceiver unit~~s~~ and a sampling frequency in ~~at least one other of the first~~ a second remote transceiver unit~~s~~; and,

adjusting the common frequency in ~~each of~~ said first and second remote transceiver units in accordance with the offsets detected responsive to continuous comparison of received and detected signals in at least one second signal to be transmitted by the ~~second~~ central transceiver unit and to be received by said first or second remote transceiver unit to correct for an error in the common frequency reference used locally thereat, so that the effects of the offsets to be perceived by said first or second remote transceiver unit will be substantially reduced in preemptive manner, the second signal to be transmitted being thereby adjusted to be in substantial frequency lock with the common frequency reference of said first or second remote transceiver unit.

16-17. (Canceled).

18. (Currently amended) A method according to claim 15, wherein the step of detecting the offsets for ~~at least one of~~ the first remote transceiver unit~~s~~ includes performing a correlation on a digital representation of the first signal so as to lock onto the offset in the carrier frequency.

19. (Currently amended) A method according to claim 15, wherein the step of adjusting the common frequency ~~frequencies~~ for ~~at least one of~~ the first remote transceiver unit~~s~~ includes digitally shifting data in frequency to be transmitted in accordance with the carrier frequency and the offset corresponding thereto.

20-21. (Canceled).

22. (Currently amended) A method according to claim 15, wherein the step of detecting the offsets for ~~at least one of~~ the first remote transceiver unit~~s~~ includes locking onto the offset in the carrier frequency and producing an output signal corresponding thereto.

23. (Currently amended) A method according to claim 22, wherein the step of adjusting the common frequency ~~frequencies~~ for ~~at least one of~~ the first remote transceiver unit~~s~~ includes variably adjusting a reference frequency output by a crystal oscillator in accordance with the output signal generated by the locking means.

24-28. (Canceled).

29. (Currently amended) A device adapted to be used in a plurality of ~~first~~ remote transceiver units to communicate with a ~~second~~ central transceiver unit using a common frequency, the device comprising:

a frequency lock loop in ~~at least one of said~~ a first remote transceiver unit~~s~~ and a delay lock loop in ~~at least one other of said first~~ a second remote transceiver unit~~s~~ respectively coupled to receive digital representations of at least one first signal transmitted by the ~~second~~ central transceiver unit, the frequency and delay lock loops being adapted to detect comparative carrier and sampling frequency offsets in the respective first signals and to produce offset information corresponding thereto indicative of offsets between respective common frequency references locally used at the ~~first~~ remote and ~~second~~ central transceiver units; and

a frequency shift block in ~~at least one of~~ said first remote transceiver unit~~s~~ and a timing acquisition unit in ~~at least one other of~~ said ~~first~~ second remote

transceiver unit~~s~~ respectively coupled to receive the offset information and digital data to be transmitted by said first and second remote transceiver units in at least one second signal to be received by the ~~second~~ central transceiver unit disposed remotely therefrom, the frequency shift block and timing acquisition unit being respectively adapted to digitally shift and sample the digital data in frequency in accordance with the common frequencies and frequency offsets corresponding thereto to correct for errors in the common frequency references used locally at the ~~second~~ central transceiver unit, so that the effects of the carrier and sampling frequency offsets to be perceived by the ~~second~~ central transceiver unit will be substantially reduced in preemptive manner for continuous wireless bi-directional communication between the ~~first~~ remote and ~~second~~ central transceiver units for the direct exchange of information.

30. (Canceled).

31. (Currently amended) A device adapted to be used in a plurality of ~~first~~ remote transceiver units to communicate with a ~~second~~ central transceiver unit disposed remotely therefrom using a common frequency, the device comprising:

a frequency lock loop in ~~at least one of said~~ a first remote transceiver unit~~s~~ and a delay lock loop in ~~at least one other of said first~~ a second remote transceiver unit~~s~~ respectively coupled to receive digital representations of at least

one first signal transmitted by the ~~second~~ central transceiver unit, the frequency and delay lock loops being adapted to detect comparative carrier and sampling frequency offsets in the respective first signals and to produce analog offset signals corresponding thereto indicative of offsets between respective common frequency references locally used at the ~~first~~ remote and ~~second~~ central transceiver units;

a crystal oscillator that supplies a reference frequency for modulating at least one second signal to be perceived by the ~~second~~ central transceiver unit in accordance with the common frequency; and

variably adjustable devices coupled to receive the offset signals, the variably adjustable devices being respectively adapted to adjust the reference frequency of the crystal oscillator and a sampling clock of an analog-to-digital converter in accordance with the offset signals to correct for errors in the common frequency references used locally at the ~~second~~ central transceiver unit, so that the effects of the carrier and sampling frequency offsets in the second signal to be perceived by the ~~second~~ central transceiver unit will be substantially reduced in preemptive manner for continuous wireless bi-directional communication between the ~~first~~ remote and ~~second~~ central transceiver units for the direct exchange of information.

32-33. (Canceled).

34. (Currently amended) A device adapted to be used in a communication system, the communication system using one of OFDM, NBFDM, DMT, FDMA and TDMA, the device comprising:

a plurality of ~~first~~ remote transceiver units operable to communicate in continuous bi-directional manner for the direct exchange of information with a ~~second~~ central transceiver unit disposed remotely therefrom using a common frequency;

means for detecting responsive to a continuous comparison of received and detected signals in each of said ~~first~~ remote transceiver units a comparative offset between respective common frequency references locally by said ~~first~~ remote transceiver unit and the ~~second~~ central transceiver unit in at least one first signal transmitted by said ~~first~~ remote transceiver unit and received by the ~~second~~ central transceiver unit, wherein the common frequency is a carrier frequency in ~~at least one of the~~ a first remote transceiver unit~~s~~ and a sampling frequency in ~~at least one other of the first~~ second remote transceiver unit~~s~~;

means for communicating information corresponding to the detected offsets from the ~~second~~ central transceiver unit to the first and second remote transceiver units; and,

means for adjusting the common frequency in ~~each of~~ said first and second remote transceiver units in accordance with the offsets detected responsive to continuous comparison of received and detected signals in at least one second

signal to be transmitted by said first or second remote transceiver unit and to be received by the ~~second~~ central transceiver unit to correct for errors in the common frequency references used locally thereat, so that the effects of the offsets to be perceived by the ~~second~~ central transceiver unit will be substantially reduced in preemptive manner, the second signal to be transmitted being thereby adjusted to be in substantial frequency lock with the common carrier frequency reference of the ~~second~~ central transceiver unit.

35. (Currently amended) A device adapted to be used in a communication system, the communication system using one of OFDM, NBFDM, DMT, FDMA and TDMA, the device comprising:

a plurality of ~~first~~ remote transceiver units operable to communicate in continuous bi-directional manner for the direct exchange of information with a ~~second~~ central transceiver unit disposed remotely therefrom using a common frequency;

means for detecting responsive to a continuous comparison of received and detected signals in each of said ~~first~~ remote transceiver units a comparative offset between respective common frequency references locally by said ~~first~~ remote transceiver unit and the ~~second~~ central transceiver unit in at least one first signal transmitted by said ~~first~~ remote transceiver unit and received by the ~~second~~ central transceiver unit, wherein the common frequency is a carrier

frequency in ~~at least one of the~~ a first remote transceiver unit~~s~~ and a sampling frequency in ~~at least one other of the first~~ a second remote transceiver unit~~s~~;

means for communicating information corresponding to the detected offsets from the ~~second~~ central transceiver unit to the first and second remote transceiver units; and,

means for adjusting the common frequency in each of said first and second remote transceiver units in accordance with the offsets detected responsive to continuous comparison of received and detected signals in at least one second signal to be transmitted by the ~~second~~ central transceiver unit and to be received by said first or second remote transceiver unit to correct for errors in the common frequency reference used locally thereat, so that the effects of the offsets to be perceived by the first or second remote transceiver unit will be substantially reduced in preemptive manner, the second signal to be transmitted being thereby adjusted to be in substantial frequency lock with the common carrier frequency reference of the first or second remote transceiver unit.